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Title:

Aesthetics and Fractal Dimension of Electric Sheep

Abstract:

Physicist Julien Clinton Sprott demonstrated a correlation between aesthetic judgments of fractal images and their fractal dimensions (1993). Scott Draves, aka Spot, a computer scientist and artist, has created a multidimensional space of two-dimensional colored fractal images called fractal flames, based on chaotic attractors of two-dimensional iterated function systems, and an algorithm that expands a flame into a brief animation called an electric sheep. His website, [electricssheep.org](http://electricssheep.org), serves electric sheep to a large community of regular users, via the sheepserver, through a highly interactive client, a screensaver, involving generation of new sheep by both server and users. The users vote electronically for the sheep they like while the screensaver is running. In this report we proceed from Sprott to Spot. Data from Spot's website show significant correlations between aesthetic judgments for flames and their fractal dimension, similar to reports by colleagues of Sprott using his images. Presently, we are studying the variation of this correlation and the favorite fractal dimensions with time, to determine if there are similarities or differences in the evolution of aesthetic preferences with respect to fractal dimension as Taylor has found in the evolution of Pollock's art (2003). Details may be found at: <http://www.vismath.org/research/sheep>.